

January 27, 2006

John Gantner
3943 Eagle Parkway
Redding, California 96001

4th Quarter 2005 Operations and Maintenance Report
Former Service Station
1680 Mendocino Avenue
Santa Rosa, California
ECM Project #98-439-14

Dear Mr. Gantner:

This report provides details of the operations and maintenance for the ground water extraction (GWE) system operating at the above referenced site during the fourth quarter of 2005. A site location map is included as Figure 1, Appendix A.

System Configuration and Operation

System layout and remediation pad details are shown in Figure 2, Appendix A. The system consists of Grundfos submersible, electric pumps set at approximately 34 feet below ground surface in wells EX-1, EX-2, and EX-3. The pumps have been adjusted to extract ground water at approximately 10 gallons per minute (gpm). Extracted ground water is pumped through three 2,000 pound activated carbon vessels and discharged to the sanitary sewer under permit from the Santa Rosa Subregional Water Reclamation System.

GWE system construction was completed in September 2004 and continuous operations began on November 11, 2004. The system ran continuously during the fourth quarter of 2005, with downtime for routine maintenance. On December 28, 2005 the system was turned off under direction of the Sonoma County Sewer District, because of sewer capacity issues related to seasonal storm conditions. The system was restarted on January 5, 2006. Between system startup and January 11, 2006, the system extracted 5,249,582 gallons of ground water, according to system totalizer readings (Table 4, Appendix B). Totalizer readings are recorded on field data sheets (Appendix D).

System Performance Evaluation

GWE system performance can be evaluated by the mass of hydrocarbons removed. Since hydrocarbons have a low solubility in water, mass of hydrocarbons removed by a ground water extraction system is typically low relative to the quantity of hydrocarbons sorbed to soil. Analytical results of contamination in site monitoring wells is provided in Table 2, Appendix B. Another measure of system performance is the system's ability to control the offsite migration of impacted ground water.

Mass of hydrocarbon removed is calculated using system totalizer readings and groundwater influent lab data. Between October 10, 2005 and January 11, 2006 a total volume of 1,228,571 gallons of groundwater was extracted by the system, at between 0 and 16 gallons per minute. Analytical results for the influent samples collected on October, 2005 and January 11, 2006 reported concentrations of TPH(G) at 110 ppb and 2,500 ppb, respectively. Influent analytical results are provided in Table 3, Appendix B. Analytical laboratory reports are included in Appendix C. Assuming analytical results are typical for the period, a total mass of approximately 6 kg of hydrocarbon was extracted by the system during the fourth quarter of 2005. Cumulative hydrocarbon removal is provided in Table 4, Appendix B and depicted in Graph 1, Appendix B. Approximate removal totals are calculated using an average of the two most recent analytical results.

Piezometers PZ-1 through PZ-3 have been installed to measure drawdown generated by the extraction system. Drawdown is used to measure the ability of the system to control offsite migration of impacted water. Water levels in piezometers, extraction wells, and ground water wells are measured on a quarterly basis to verify system performance. Significant drawdown in the piezometers indicates the system is controlling offsite plume migration.

Depth to water and ground water elevations are provided in Table 1, Appendix B. A ground water contour map from October 27, 2005, included as Figure 3, Appendix A, depicts the influence of the remediation system. Depth to water was also measured in each piezometer and extraction well on December 2, 2005 to verify system performance. Depth to water measurements from December 2 indicated that the system was operating properly.

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ECM Project #98-439-14

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Thank you for the opportunity to provide environmental services to you. Please call if you have any questions.

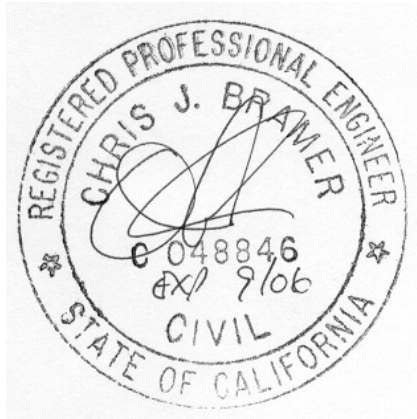
Sincerely,
ECM Group



David Hazard
Environmental Scientist



Chris Bramer
Professional Engineer #C048846



Appendices:

- A - Figures
- B - Tables
- C - Chain of Custody and Laboratory Analytical Report
- D - Field Data Sheets

cc: Joan Fleck, North Coast Regional Water Quality Control Board
Ruth Roberts, Environmental Health and Safety @ SRJC

APPENDIX A

FIGURES

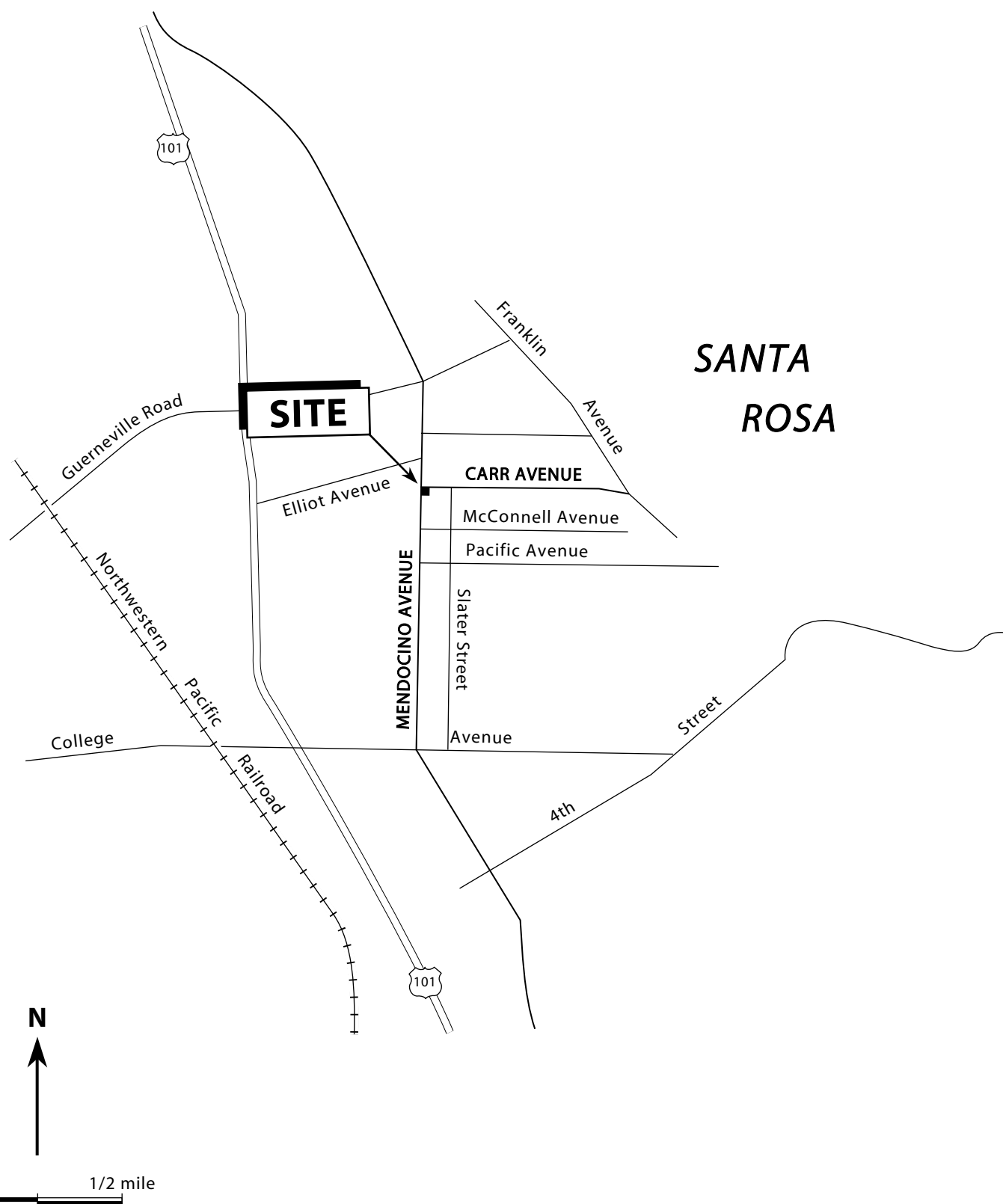


Figure 1. □ Site Location Map - Former Service Station, 1680 Mendocino Avenue, Santa Rosa, California

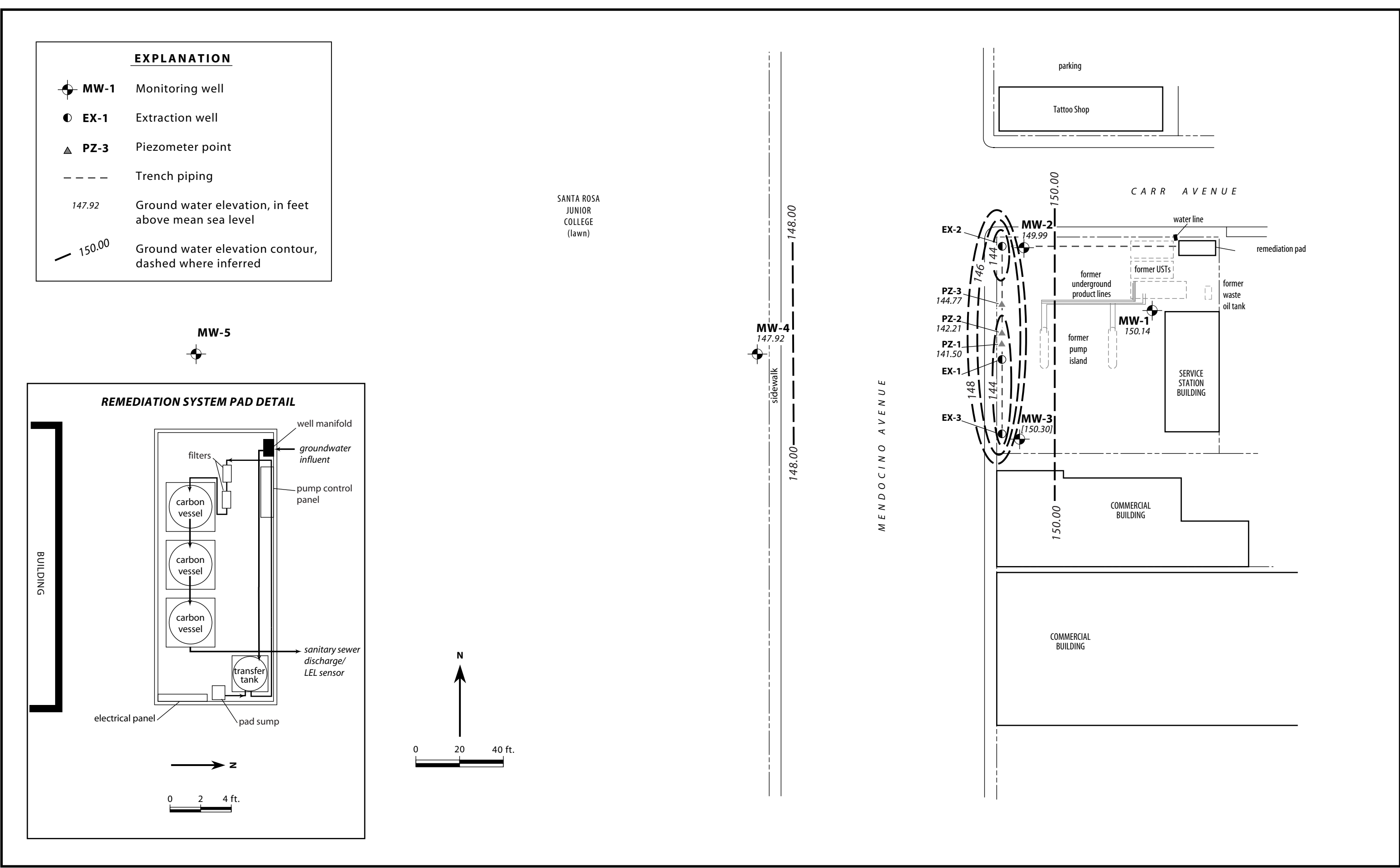


Figure 2. Monitoring Well Locations, Ground Water Contour Map and Remediation System Layout - October 27, 2005 - Former Service Station, 1680 Mendocino Avenue, Santa Rosa, California

APPENDIX B

TABLES AND GRAPHS

Table 1. Monitoring Well Survey Data, Well Construction Details, and Depth to Ground Water - 1680 Mendocino Avenue, Santa Rosa, California

Well ID	Sample Date	TOC (Ft, msl)	DTW (Ft)	GWE (Ft, msl)	Screen Interval	Sand Pack Interval	Bentonite/Grout Interval	Notes
MW-1	11/23/1998	158.90	9.70	149.20	5 - 15	4 - 15	0 - 4	
	3/9/1999		4.51	154.39				
	6/28/1999		8.71	150.19				
	9/29/1999		10.48	148.82				
	12/30/1999		10.15	148.75				
	3/29/2000		6.17	152.73				
	7/11/2000		9.05	149.85				
	10/27/2000		11.17	147.73				
	12/15/2000		9.59	149.31				
	3/7/2001		5.24	153.66				
	6/20/2001		9.47	149.43				
	9/11/2001		11.00	147.90				
	12/10/2001	161.56	7.92	150.98				Resurveyed for EDF compliance, January 9, 2002.
	3/6/2002		6.79	154.77				
	6/5/2002		8.76	152.80				
	9/23/2002		10.75	150.81				
	3/26/2003		6.46	155.10				
	10/3/2003		10.50	151.06				
	3/10/2004		5.89	155.67				
	9/17/2004		10.76	150.80				
	3/1/2005		6.90	154.66				
	3/9/2005		6.18	155.38				
	5/2/2005		7.90	153.66				
	9/23/2005		---	---				DTW not measured due to equipment malfunction.
	10/27/2005		11.42	150.14				

Table 1. Monitoring Well Survey Data, Well Construction Details, and Depth to Ground Water - 1680 Mendocino Avenue, Santa Rosa, California

Well ID	Sample Date	TOC (Ft, msl)	DTW (Ft)	GWE (Ft, msl)	Screen Interval	Sand Pack Interval	Bentonite/ Grout Interval	Notes
MW-2	11/23/1998	158.58	9.49	149.09	5 - 15	4 - 15	0 - 4	
	3/9/1999		5.81	152.77				
	6/28/1999		8.66	149.92				
	9/29/1999		10.53	148.05				
	12/30/1999		10.33	148.25				
	3/29/2000		6.41	152.17				
	7/11/2000		8.98	149.60				
	10/27/2000		10.56	148.02				
	12/15/2000		9.22	149.36				
	3/7/2001		5.00	153.58				
	6/20/2001		9.14	149.44				
	9/11/2001		12.10	146.48				
	12/10/2001	161.10	5.65	152.93				Resurveyed for EDF compliance, January 9, 2002.
	3/6/2002		6.31	154.79				
	6/5/2002		8.42	152.68				
	9/23/2002		10.35	150.75				
	3/26/2003		6.22	154.88				
	10/3/2003		10.26	150.84				
	3/10/2004		5.62	155.48				
	9/17/2004		10.28	150.82				
	3/1/2005		6.84	154.26				
	3/9/2005		5.92	155.18				
	5/2/2005		7.69	153.41				
	9/23/2005		---	---				DTW not measured due to equipment malfunction.
	10/27/2005		11.11	149.99				

Table 1. Monitoring Well Survey Data, Well Construction Details, and Depth to Ground Water - 1680 Mendocino Avenue, Santa Rosa, California

Well ID	Sample Date	TOC (Ft, msl)	DTW (Ft)	GWE (Ft, msl)	Screen Interval	Sand Pack Interval	Bentonite/ Grout Interval	Notes
MW-3	11/23/1998	159.31	10.59	148.72	5 - 15	4 - 15	0 - 4	
	3/9/1999		5.49	153.82				
	6/28/1999		9.42	149.89				
	9/29/1999		11.46	147.85				
	12/30/1999		11.07	148.24				
	3/29/2000		7.06	152.25				
	7/11/2000		9.74	149.57				
	10/27/2000	159.38	11.81	147.57				TOCs surveyed on October 20, 2000.
	12/15/2000		10.81	148.57				
	3/7/2001		5.98	153.40				
	6/20/2001		10.18	149.20				
	9/11/2001		10.80	148.58				
	12/10/2001	161.95	7.75	151.63				Resurveyed for EDF compliance, January 9, 2002.
	3/6/2002		7.31	154.64				
	6/5/2002		9.47	152.48				
	9/23/2002		11.86	150.09				
	3/26/2003		7.20	154.75				
	10/3/2003		11.35	150.60				
	3/10/2004		6.54	155.41				
	9/17/2004		11.90	150.05				
	3/1/2005		7.62	154.33				
	3/9/2005		6.63	155.32				
	5/2/2005		8.71	153.24				
	9/23/2005		11.76	150.19				
	10/27/2005		11.65	150.30				

Table 1. Monitoring Well Survey Data, Well Construction Details, and Depth to Ground Water - 1680 Mendocino Avenue, Santa Rosa, California

Well ID	Sample Date	TOC (Ft, msl)	DTW (Ft)	GWE (Ft, msl)	Screen Interval	Sand Pack Interval	Bentonite/ Grout Interval	Notes					
MW-4	10/27/2000	159.30	12.56	146.74	5 - 20	4 - 20	0 - 4	TOCs surveyed on October 20, 2000.					
	12/15/2000		12.05	147.25									
	3/7/2001		7.37	151.93									
	6/20/2001		11.44	147.86									
	9/11/2001		12.88	146.42									
	12/10/2001	161.87	7.45	151.85				Resurveyed for EDF compliance, January 9, 2002.					
	3/6/2002		7.85	154.02									
	6/5/2002		10.37	151.50									
	9/23/2002		12.11	149.76									
	3/26/2003		8.25	153.62									
	10/3/2003		12.00	149.87									
	3/10/2004		7.50	154.37									
	9/17/2004		12.22	149.65									
	3/1/2005		7.71	154.16									
	3/9/2005		7.51	154.36									
	5/2/2005		9.24	152.63									
	9/23/2005		11.59	150.28									
	10/27/2005		13.95	147.92									
	MW-5		10/27/2000	156.88				11.74	145.14	5 - 20	4 - 20	0 - 4	TOCs surveyed on October 20, 2000.
12/15/2000		11.15	145.73										
3/16/2001		7.27	149.61										
6/20/2001		10.69	146.19										
9/11/2001		12.00	144.88										
12/10/2001		159.45	7.00	149.88	Resurveyed for EDF compliance, January 9, 2002.								
3/6/2002			7.70	151.75									
6/5/2002			9.48	149.97									
9/23/2002			---	---	Well inaccessible.								
3/26/2003			7.53	151.92									
10/3/2003			11.10	148.35									
3/10/2004			6.53	152.92									
9/17/2004			11.61	147.84									
3/1/2005			6.07	153.38									
3/9/2005			6.47	152.98									
5/2/2005			8.32	151.13									

Table 1. Monitoring Well Survey Data, Well Construction Details, and Depth to Ground Water - 1680 Mendocino Avenue, Santa Rosa, California

Well ID	Sample Date	TOC (Ft, msl)	DTW (Ft)	GWE (Ft, msl)	Screen Interval	Sand Pack Interval	Bentonite/ Grout Interval	Notes
MW-5	9/23/2005	159.45	---	---	5 - 20	4 - 20	0 - 4	Well inaccessible due to pavement resurfacing.
	10/27/2005		---	---				Well inaccessible due to pavement resurfacing.
PZ-1	3/1/2005	161.89	12.19	149.70				
	5/2/2005		10.61	151.28				
	9/23/2005		14.80	147.09				
	10/27/2005		20.39	141.50				
	12/2/2005		19.19	142.70				
PZ-2	3/1/2005	161.77	10.11	151.66				
	5/2/2005		9.84	151.93				
	9/23/2005		14.72	147.05				
	10/27/2005		19.56	142.21				
	12/2/2005		18.21	143.56				
PZ-3	3/1/2005	161.81	9.25	152.56				
	5/2/2005		9.71	152.10				
	9/23/2005		13.18	148.63				
	10/27/2005		17.00	144.77				
	12/2/2005		14.86	146.95				

Explanation:

TOC = Top of Casing

ft = feet

msl = Mean Sea Level

DTW = Depth to Water

GWE = Ground Water Elevation

Table 2. Analytical Results for Ground Water - Former Service Station, 1680 Mendocino Avenue, Santa Rosa, California

Sample ID	Date Sampled	TPH (G)	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
		<-----ppb ----->						
MW-1	11/30/1998	16,000	140	28	900	1,900	<250	
	3/9/1999	4,000	53	8.7	74	79	40	
	6/28/1999	2,400	12	1.1	150	110	19	
	9/29/1999	16,000	180	<50	930	770	<500	
	12/30/1999	10,000	190	43	1,000	710	<100	
	3/29/2000	5,100	120	36	370	190	<100	
	7/11/2000	2,800	110	49	160	80	<50	
	10/27/2000	2,600	34	7.4	120	45	<2.0	
	12/15/2000	7,300	120	39	300	180	<20	
	3/7/2001	4,300	43	15	400	170	223	
	6/20/2001	670	21	9.5	83	42	<5.0	
	9/11/2001	1,700	130	64	110	75	16	
	12/10/2001	2,500	280	160	140	200	9.7	
	3/6/2002	<50	<0.50	<0.50	<0.50	<0.50	<2.0	
	6/5/2002	<50	<0.50	<0.50	<0.50	<0.50	2.3	
	9/23/2002	1,800	240	120	140	440	1.6	
	3/26/2003	380	43	11	26	31	2	
	10/3/2003	640	140	16	39	54	<1	
	3/10/2004	260	45	14	14	34.6	1	
	9/17/2004	220	47	8.6	22	38	<1	
	3/9/2005	<25	<0.5	<0.5	<0.5	<0.5	<1	
	9/23/2005	740	34	23	32	110	<1.0	

Table 2. Analytical Results for Ground Water - Former Service Station, 1680 Mendocino Avenue, Santa Rosa, California

Sample ID	Date Sampled	TPH (G)	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
		<-----ppb----->						
MW-2	11/30/1998	27,000	2,600	200	1,700	3,700	640	
	3/9/1999	49,000	3,400	270	3,400	4,700	530	
	6/28/1999	37,000	4,200	250	3,500	5,000	780	
	9/29/1999	36,000	4,000	230	3,800	4,000	530	
	12/30/1999	31,000	2,900	150	4,400	5,100	<500	
	3/29/2000	26,000	3,100	150	3,100	2,400	520	
	7/11/2000	25,000	2,600	140	3,600	2,200	650	
	10/27/2000	38,000	3,400	130	3,100	2,900	<20	
	12/15/2000	49,000	2,700	110	3,000	2,800	<50	
	3/7/2001	26,000	3,200	88	3,500	2,000	18	Tertiary butanol detected at 12 ppb.
	6/20/2001	21,000	1,900	130	3,500	2,300	<50	
	9/11/2001	22,000	1,600	140	4,100	1,600	<50	
	12/10/2001	20,000	1,900	200	3,000	1,500	<100	
	3/6/2002	<50	9.4	<0.50	<0.50	<0.50	2.7	
	6/5/2002	8,900	410	29	1,400	400	6.6	
	9/23/2002	18,000	1,100	160	2,200	1,100	<100	
	3/26/2003	14,000	810	57	2,500	496	64	
	10/3/2003	20,000	930	61	3,100	470	<40	
	3/10/2004	8,300	410	34	1,200	170	<20	
	9/17/2004	8,600	420	36	1,300	150	<40	
	3/9/2005	1,400	31	2.3	99	9.5	<2	
	9/23/2005	12,000	110	33	640	150	<20	

Table 2. Analytical Results for Ground Water - Former Service Station, 1680 Mendocino Avenue, Santa Rosa, California

Sample ID	Date Sampled	TPH (G)	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
		<-----ppb ----->						
MW-3	11/30/1998	56,000	6,600	4,600	1,400	5,800	1,100	
	3/9/1999	220,000	24,000	15,000	5,000	23,000	2,400	
	6/28/1999	89,000	13,000	6,800	2,800	12,000	1,500	
	9/29/1999	100,000	13,000	4,100	3,000	12,000	1,400	
	12/30/1999	58,000	11,000	5,100	2,400	11,000	890	
	3/29/2000	48,000	10,000	3,300	2,000	8,600	1,100	
	7/11/2000	64,000	14,000	2,100	2,600	10,000	<2,500	
	10/27/2000	88,000	16,000	6,100	2,700	10,000	790	Tertiary Butanol detected at 400 ppb. See laboratory analytic reports for detection limits.
	12/15/2000	120,000	15,000	5,800	2,300	9,600	830	
	3/7/2001	44,000	11,000	4,900	2,100	8,200	460	
	6/20/2001	55,000	12,000	3,900	2,500	10,000	340	
	9/11/2001	48,000	13,000	2,100	2,600	9,700	390	
	12/10/2001	76,000	16,000	6,800	3,600	13,000	<500	
	3/6/2002	53,000	11,000	4,800	2,300	12,000	540	
	6/5/2002	25,000	6,300	2,400	1,900	7,500	340	
	9/23/2002	39,000	6,800	950	1,200	5,000	1,100	
	3/26/2003	54,000	7,800	2,500	3,100	11,400	310	TAME was detected at 23 ppb.
	10/3/2003	50,000	9,500	720	2,300	6,400	430	
	3/10/2004	40,000	8,500	800	2,800	9,300	220	
	9/17/2004	40,000	9,200	700	2,600	7,900	290	
	3/9/2005	41,000	5,300	1,200	2,700	11,000	<200	
	9/23/2005	21,000	1,900	280	1,300	4,200	<100	

Table 2. Analytical Results for Ground Water - Former Service Station, 1680 Mendocino Avenue, Santa Rosa, California

Sample ID	Date Sampled	TPH (G)	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
		<-----ppb ----->						
MW-4	10/27/2000	18,000	6,200	13	79	15	1,100	Tertiary Butanol detected at 560 ppb.
	12/15/2000	22,000	4,400	<25	110	30	1,700	
	3/7/2001	10,000	4,400	<50	89	55	600	Tertiary butanol detected at 280 ppb.
	6/20/2001	16,000	5,300	50	130	<50	900	
	9/11/2001	8,200	2,800	51	56	<25	2,600	
	12/10/2001	11,000	3,300	68	140	120	1,400	
	3/6/2002	6,600	1,800	23	110	<10	810	
	6/5/2002	7,800	2,700	33	85	23	340	
	9/23/2002	11,000	2,400	27	56	16	980	
	3/26/2003	6,600	1,600	20	64	16	210	TAME detected at 2 ppb.
	10/3/2003	12,000	2,100	<50	80	<100	230	
	3/10/2004	4,600	1,100	28	34	<20	160	
	9/17/2004	3,600	730	13	17	<20	110	
	3/9/2005	8,000	860	17	40	<10	83	
	9/23/2005	8,400	940	32	36	16	75	

Table 2. Analytical Results for Ground Water - Former Service Station, 1680 Mendocino Avenue, Santa Rosa, California

Sample ID	Date Sampled	TPH (G)	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Notes
		<-----ppb----->						
MW-5	10/27/2000	<50	<0.5	<0.5	<0.5	<0.5	<2.0	
	12/15/2000	<50	<0.5	<0.5	<0.5	<0.5	<0.5	
	3/16/2001	92	5.4	5.6	2.3	6.2	<2.0	
	6/20/2001	<50	<0.5	<0.5	<0.5	<0.5	<5.0	
	9/11/2001	91	14	11	4	12	<5.0	
	12/10/2001	56	8.2	1.6	1.8	3.3	<5	
	3/6/2002	<50	<0.50	<0.50	<0.50	<0.50	<2.0	
	6/5/2002	<50	<0.50	<0.50	<0.50	<0.50	2.8	
	9/23/025	---	---	---	---	---	---	Well inaccessible.
	3/26/2003	65	12	3	<1	7	<1	
	10/3/2003	110	23	3.6	7.4	12	<1	No other oxygenates were detected.
	3/10/2004	85	15	9.8	5.9	19	1	No other oxygenates were detected.
	9/17/2004	43	6.8	2.2	3.7	8.4	<1	
	3/9/2005	<25	<0.5	<0.5	<0.5	<0.5	<1	
	9/23/2005	---	---	---	---	---	---	Well inaccessible due to pavement resurfacing.

Explanation:

TPPH(G) = Total Purgeable Petroleum Hydrocarbons as Gasoline

MTBE = Methyl tert butyl ether

ppb = parts per billion

Table 3. Analytical Results for Influent Samples - 1680 Mendocino Avenue, Santa Rosa, California

Sample Date	TPH(G)	Benzene	Toluene	Ethyl Benzene	Xylenes	MTBE	Notes
	<-----ppb----->						
9/3/2004	4,800	480	34	800	170	83	
11/5/2004	450	35	1	35	6	9	
12/7/2004	360	28	2	66	15	9	
1/5/2005	3,100	83	12	340	68	8	
2/11/2005	370	9	2	21	16	7	
4/7/2005	2,100	38	5	130	42	<5	
7/5/2005	<50	0.67	<0.50	0.70	<0.50	2.0	
8/15/2005	650	8.4	0.78	6.2	7.7	1.8	
10/4/2005	110	5.2	0.54	2.2	0.85	3.2	
1/11/2006	2,500	49	13	190	80	<5.0	

Table 4. Ground Water Extraction System Performance Data - 1680 Mendocino Ave, Santa Rosa, California

Date	totalizer reading	flow (gallons)	flow rate since previous reading (gpm)	notes
9/3/2004	1,091	---	---	Initial sampling
11/4/2004	1,091	---	---	
11/5/2004	8,372	7,281	---	
11/10/2004	10,933	2,561	---	Beginning of continuous operation
11/11/2004	36,309	25,376	18	
11/12/2004	54,249	17,940	12	
11/15/2004	72,330	18,081	4	
11/18/2004	109,464	37,134	9	
11/19/2004	121,997	12,533	9	
11/24/2004	186,125	64,128	9	
12/1/2004	280,335	94,210	9	
12/6/2004	280,863	528	0	Carbon filter fouling
12/7/2004	281,883	1,020	1	Carbon filter cleaned
12/10/2004	329,715	47,832	11	
12/21/2004	330,187	472	0	System off for transfer pump replacement
12/30/2004	330,949	762	0	System restarted
1/3/2005	434,035	103,086	24	
1/5/2005	489,904	55,869	19	
1/12/2005	689,605	199,701	20	
1/21/2005	947,809	258,204	20	
1/28/2005	1,142,497	194,688	19	
2/1/2005	1,254,800	112,303	26	
2/4/2005	1,327,670	72,870	17	
2/10/2005	1,469,620	141,950	16	
2/25/2005	1,824,845	355,225	16	
3/1/2005	1,921,939	97,094	11	
3/4/2005	1,993,682	71,743	17	
3/28/2005	2,294,864	301,182	9	
4/5/2005	2,465,264	170,400	17	
4/20/2005	2,769,862	304,598	14	
5/2/2005	2,865,604	95,742	6	
6/2/2005	3,184,877	319,273	7	
7/5/2005	3,435,775	250,898	5	system off on arrival - control sensor malfunction

Table 4. Ground Water Extraction System Performance Data - 1680 Mendocino Ave, Santa Rosa, California

Date	totalizer reading	flow (gallons)	flow rate since previous reading (gpm)	notes
8/3/2005	3,520,162	84,387	2	
8/15/2005	3,560,987	40,825	2	
9/9/2005	3,775,496	214,509	6	
9/23/2005	3,912,889	137,393	7	
9/28/2005	3,962,004	49,115	7	
10/4/2005	4,021,011	59,007	7	
10/12/2005	4,096,738	75,727	7	
10/20/2005	4,253,637	156,899	14	
10/27/2005	4,374,386	120,749	12	
11/2/2005	4,470,507	96,121	13	
11/10/2005	4,593,739	123,232	11	
11/21/2005	4,751,238	157,499	10	
12/2/2005	4,900,270	149,032	9	
12/9/2005	4,938,121	37,851	4	
12/16/2005	5,096,756	158,635	16	
12/21/2005	5,214,432	117,676	16	
12/28/2005	5,248,528	34,096	3	system off per city of Sonoma County Sewer
1/5/2006	5,248,845	317	0	system restarted
1/11/2006	5,249,582	737	0	Maintenance - detailed description next quarter

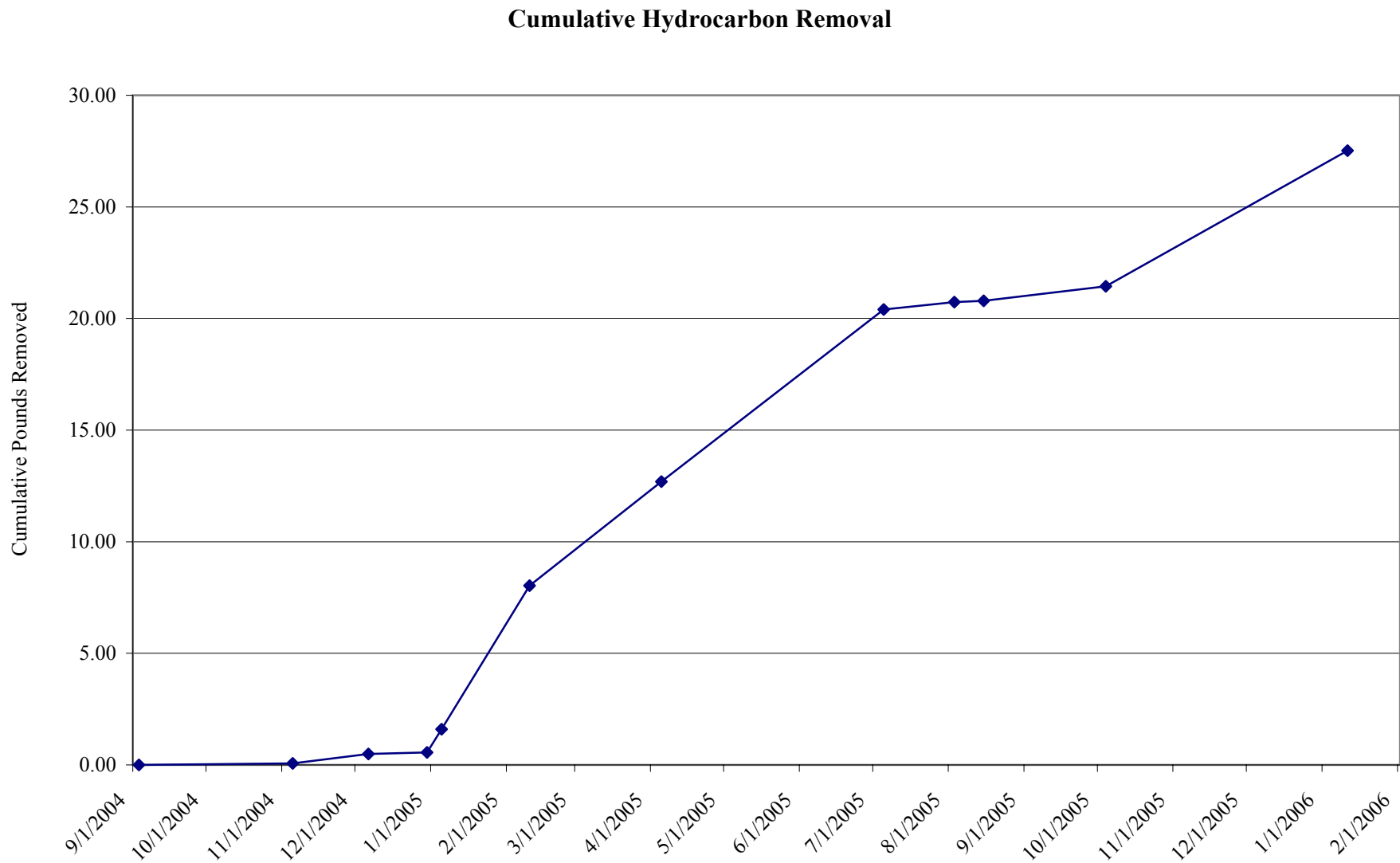
Table 5. Ground Water Extraction System Performance Data - 1680 Mendocino Avenue, Santa Rosa, California

Date	totalizer reading	flow (gallons)	influent concentration TPH(G) ppb	hydrocarbon removal (kg)	cumulative hydrocarbon removal (kg)
9/3/2004	1,091	---	4,800	---	0.00
11/5/2004	8,372	7,281	450	0.07	0.07
12/6/2004	280,863	272,491	360	0.42	0.49
12/30/2004	330,949	50,086	360	0.07	0.56
1/5/2005	489,904	158,955	3,100	1.04	1.60
2/10/2005	1,469,620	979,716	370	6.43	8.03
4/5/2005	2,465,264	995,644	2,100	4.65	12.69
7/5/2005	3,435,775	970,511	2,100	7.71	20.40
8/3/2005	3,520,162	84,387	0	0.34	20.74
8/15/2005	3,560,987	40,825	650	0.05	20.79
10/4/2005	4,021,011	460,024	110	0.66	21.45
1/11/2006	5,249,582	1,228,571	2,500	6.07	27.52

Formula: $\text{kg} = (\text{G} \times 3.785\text{L/G} \times \mu\text{g/L}) / 1,000,000,000$

where:
 kg= kilograms
 G= flow in gallons
 L= liters
 μg = micrograms

Note: Hydrocarbon removal calculations use an average of the two latest influent concentrations.



Graph 1: Cumulative pounds of hydrocarbon removed by ground water extraction (GWE) system - 1680 Mendocino Avenue, Santa Rosa, California

APPENDIX C

CHAIN OF CUSTODY
AND
LABORATORY ANALYTICAL REPORTS

Entech Analytical Labs, Inc.

3334 Victor Court • Santa Clara, CA 95054 • (408) 588-0200 • Fax (408) 588-0201

Jim Green
ECM Group
290 W. Channel Rd.
Benicia, CA 94510

Lab Certificate Number: 45678
Issued: 10/17/2005

Project Number: 98-439-55
Project Name: Gantner

P.O. Number: 98-439-55
Global ID: T0609700730


Certificate of Analysis - Final Report

On October 06, 2005, samples were received under chain of custody for analysis.
Entech analyzes samples "as received" unless otherwise noted. The following results are included:

<u>Matrix</u>	<u>Test</u>	<u>Comments</u>
Liquid	EDF EPA 8260B EPA 624 TPH as Gasoline - GC-MS	

Entech Analytical Labs, Inc. is certified for environmental analyses by the State of California (#2346).
If you have any questions regarding this report, please call us at 408-588-0200 ext. 225.

Sincerely,



Laurie Glantz-Murphy
Laboratory Director

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054

Phone: (408) 588-0200

Fax: (408) 588-0201

ECM Group
290 W. Channel Rd.
Benicia, CA 94510
Attn: Jim Green

Date Received: 10/6/2005 12:19:26 PM

Project Number: 98-439-55
Project Name: Gantner
GlobalID: T0609700730
P.O. Number: 98-439-55
Sample Collected by: Client

Certificate of Analysis - Data Report

Lab #: 45678-001 Sample ID: Influent

Matrix: Liquid Sample Date: 10/4/2005 2:05 PM

EPA 5030C			EPA 8260B	EPA 624							8260Petroleum
Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch		
Benzene	5.2	B	1.0	0.50	µg/L	N/A	N/A	10/15/2005	WM1051014		
Toluene	0.54		1.0	0.50	µg/L	N/A	N/A	10/15/2005	WM1051014		
Ethyl Benzene	2.2		1.0	0.50	µg/L	N/A	N/A	10/15/2005	WM1051014		
Xylenes, Total	0.85		1.0	0.50	µg/L	N/A	N/A	10/15/2005	WM1051014		
Methyl-t-butyl Ether	3.2		1.0	1.0	µg/L	N/A	N/A	10/15/2005	WM1051014		
tert-Butyl Ethyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	10/15/2005	WM1051014		
tert-Butanol (TBA)	29		1.0	10	µg/L	N/A	N/A	10/15/2005	WM1051014		
Diisopropyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	10/15/2005	WM1051014		
tert-Amyl Methyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	10/15/2005	WM1051014		

Surrogate	Surrogate Recovery	Control Limits (%)	
4-Bromofluorobenzene	92.0	70	- 130
Dibromofluoromethane	124	70	- 130
Toluene-d8	111	70	- 130

Analyzed by: XBian

Reviewed by: MaiChiTu

B = This analyte was found in the associated Method Blank.

EPA 5030C GC-MS		TPH as Gasoline - GC-MS								
Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch	
TPH as Gasoline	110		1.0	50	µg/L	N/A	N/A	10/15/2005	WM1051014	

Surrogate	Surrogate Recovery	Control Limits (%)	
4-Bromofluorobenzene	103	70	- 130
Dibromofluoromethane	113	70	- 130
Toluene-d8	104	70	- 130

Analyzed by: XBian

Reviewed by: MaiChiTu

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054

Phone: (408) 588-0200

Fax: (408) 588-0201

ECM Group
290 W. Channel Rd.
Benicia, CA 94510
Attn: Jim Green

Date Received: 10/6/2005 12:19:26 PM

Project Number: 98-439-55
Project Name: Gantner
GlobalID: T0609700730
P.O. Number: 98-439-55
Sample Collected by: Client

Certificate of Analysis - Data Report

Lab #: 45678-002 Sample ID: MID-A

Matrix: Liquid Sample Date: 10/4/2005 2:10 PM

EPA 5030C	EPA 8260B	EPA 624									8260Petroleum
Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch		
Benzene	ND		1.0	0.50	µg/L	N/A	N/A	10/13/2005	WM1051013		
Toluene	ND		1.0	0.50	µg/L	N/A	N/A	10/13/2005	WM1051013		
Ethyl Benzene	ND		1.0	0.50	µg/L	N/A	N/A	10/13/2005	WM1051013		
Xylenes, Total	ND		1.0	0.50	µg/L	N/A	N/A	10/13/2005	WM1051013		
Methyl-t-butyl Ether	ND		1.0	1.0	µg/L	N/A	N/A	10/13/2005	WM1051013		
tert-Butyl Ethyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	10/13/2005	WM1051013		
tert-Butanol (TBA)	24		1.0	10	µg/L	N/A	N/A	10/13/2005	WM1051013		
Diisopropyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	10/13/2005	WM1051013		
tert-Amyl Methyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	10/13/2005	WM1051013		

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	93.1	70 - 130
Dibromofluoromethane	122	70 - 130
Toluene-d8	108	70 - 130

Analyzed by: XBian

Reviewed by: MaiChiTu

EPA 5030C GC-MS		TPH as Gasoline - GC-MS								
Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch	
TPH as Gasoline	ND		1.0	50	µg/L	N/A	N/A	10/13/2005	WM1051013	

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	105	70 - 130
Dibromofluoromethane	112	70 - 130
Toluene-d8	102	70 - 130

Analyzed by: XBian

Reviewed by: MaiChiTu

Entech Analytical Labs, Inc.

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Phone: (408) 588-0200

Fax: (408) 588-0201

ECM Group
290 W. Channel Rd.
Benicia, CA 94510
Attn: Jim Green

Date Received: 10/6/2005 12:19:26 PM

Project Number: 98-439-55
Project Name: Gantner
GlobalID: T0609700730
P.O. Number: 98-439-55
Sample Collected by: Client

Certificate of Analysis - Data Report

Lab #: 45678-003 Sample ID: MID-B

Matrix: Liquid Sample Date: 10/4/2005 2:20 PM

EPA 5030C EPA 8260B EPA 624								8260Petroleum		
Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch	
Benzene	ND		1.0	0.50	µg/L	N/A	N/A	10/13/2005	WM1051013	
Toluene	ND		1.0	0.50	µg/L	N/A	N/A	10/13/2005	WM1051013	
Ethyl Benzene	ND		1.0	0.50	µg/L	N/A	N/A	10/13/2005	WM1051013	
Xylenes, Total	ND		1.0	0.50	µg/L	N/A	N/A	10/13/2005	WM1051013	
Methyl-t-butyl Ether	ND		1.0	1.0	µg/L	N/A	N/A	10/13/2005	WM1051013	
tert-Butyl Ethyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	10/13/2005	WM1051013	
tert-Butanol (TBA)	19		1.0	10	µg/L	N/A	N/A	10/13/2005	WM1051013	
Diisopropyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	10/13/2005	WM1051013	
tert-Amyl Methyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	10/13/2005	WM1051013	
Surrogate	Surrogate Recovery		Control Limits (%)					Analyzed by: XBian		
4-Bromofluorobenzene	94.7		70 - 130					Reviewed by: MaiChiTu		
Dibromofluoromethane	122		70 - 130							
Toluene-d8	108		70 - 130							

EPA 5030C GC-MS								TPH as Gasoline - GC-MS	
Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Gasoline	ND		1.0	50	µg/L	N/A	N/A	10/13/2005	WM1051013
Surrogate	Surrogate Recovery		Control Limits (%)					Analyzed by: XBian	
4-Bromofluorobenzene	107		70 - 130					Reviewed by: MaiChiTu	
Dibromofluoromethane	112		70 - 130						
Toluene-d8	102		70 - 130						

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3334 Victor Court , Santa Clara, CA 95054

Phone: (408) 588-0200

Fax: (408) 588-0201

Method Blank - Liquid - EPA 8260B - 8260Petroleum

QC Batch ID: WM1051013

Validated by: MaiChiTu - 10/14/05

QC Batch Analysis Date: 10/13/2005

Parameter	Result	DF	PQLR	Units
Benzene	ND	1	0.50	µg/L
Diisopropyl Ether	ND	1	5.0	µg/L
Ethyl Benzene	ND	1	0.50	µg/L
Methyl-t-butyl Ether	ND	1	1.0	µg/L
tert-Amyl Methyl Ether	ND	1	5.0	µg/L
tert-Butanol (TBA)	ND	1	10	µg/L
tert-Butyl Ethyl Ether	ND	1	5.0	µg/L
Toluene	ND	1	0.50	µg/L
Xylenes, Total	ND	1	0.50	µg/L

Surrogate for Blank % Recovery Control Limits

4-Bromofluorobenzene 91.7 70 - 130

Dibromofluoromethane 113 70 - 130

Toluene-d8 110 70 - 130

Method Blank - Liquid - GC-MS - TPH as Gasoline - GC-MS

QC Batch ID: WM1051013

Validated by: MaiChiTu - 10/14/05

QC Batch Analysis Date: 10/13/2005

Parameter	Result	DF	PQLR	Units
TPH as Gasoline	ND	1	50	µg/L

Surrogate for Blank % Recovery Control Limits

4-Bromofluorobenzene 106 70 - 130

Dibromofluoromethane 103 70 - 130

Toluene-d8 103 70 - 130

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Laboratory Control Sample / Duplicate - Liquid - EPA 8260B - 8260Petroleum

QC Batch ID: WM1051013

Reviewed by: MaiChiTu - 10/14/05

QC Batch ID Analysis Date: 10/13/2005

LCS

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	Recovery Limits
Benzene	<0.50	20	20.3	µg/L	102	70 - 130
Methyl-t-butyl Ether	<1.0	20	17.7	µg/L	88.5	70 - 130
Toluene	<0.50	20	21.2	µg/L	106	70 - 130

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	86.6	70 - 130
Dibromofluoromethane	104	70 - 130
Toluene-d8	98.7	70 - 130

LCSD

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	RPD	RPD Limits	Recovery Limits
Benzene	<0.50	20	20.2	µg/L	101	0.49	25.0	70 - 130
Methyl-t-butyl Ether	<1.0	20	17.7	µg/L	88.5	0.0	25.0	70 - 130
Toluene	<0.50	20	20.7	µg/L	104	2.4	25.0	70 - 130

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	86.2	70 - 130
Dibromofluoromethane	100	70 - 130
Toluene-d8	97	70 - 130

Laboratory Control Sample / Duplicate - Liquid - GC-MS - TPH as Gasoline - GC-MS

QC Batch ID: WM1051013

Reviewed by: MaiChiTu - 10/14/05

QC Batch ID Analysis Date: 10/13/2005

LCS

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	Recovery Limits
TPH as Gasoline	<25	120	131	µg/L	105	65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	99.3	70 - 130
Dibromofluoromethane	93.6	70 - 130
Toluene-d8	97.8	70 - 130

LCSD

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	RPD	RPD Limits	Recovery Limits
TPH as Gasoline	<25	120	125	µg/L	100	4.3	25.0	65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	99.1	70 - 130
Dibromofluoromethane	93.1	70 - 130
Toluene-d8	97.2	70 - 130

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Matrix Spike / Matrix Spike Duplicate - Liquid - EPA 8260B - 8260Petroleum

QC Batch ID: WM1051013

Reviewed by: MaiChiTu - 10/14/05

QC Batch ID Analysis Date: 10/13/2005

MS Sample Spiked: 45677-001

Parameter	Sample Result	Spike Amount	Spike Result	Units	Analysis Date	% Recovery	Recovery Limits
Benzene	ND	20	20.5	µg/L	10/13/2005	102	70 - 130
Toluene	ND	20	22.0	µg/L	10/13/2005	110	70 - 130

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	86.6	70 - 130
Dibromofluoromethane	100	70 - 130
Toluene-d8	98.9	70 - 130

MSD Sample Spiked: 45677-001

Parameter	Sample Result	Spike Amount	Spike Result	Units	Analysis Date	% Recovery	RPD	RPD Limits	Recovery Limits
Benzene	ND	20	20.3	µg/L	10/13/2005	102	0.98	25.0	70 - 130
Toluene	ND	20	21.4	µg/L	10/13/2005	107	2.8	25.0	70 - 130

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	86.3	70 - 130
Dibromofluoromethane	100	70 - 130
Toluene-d8	96.8	70 - 130

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Phone: (408) 588-0200

Fax: (408) 588-0201

Method Blank - Liquid - EPA 8260B - 8260Petroleum

QC Batch ID: WM1051014

Validated by: MaiChiTu - 10/17/05

QC Batch Analysis Date: 10/14/2005

Parameter	Result	DF	PQLR	Units
Benzene	ND	1	0.50	µg/L
Diisopropyl Ether	ND	1	5.0	µg/L
Ethyl Benzene	ND	1	0.50	µg/L
Methyl-t-butyl Ether	ND	1	1.0	µg/L
tert-Amyl Methyl Ether	ND	1	5.0	µg/L
tert-Butanol (TBA)	ND	1	10	µg/L
tert-Butyl Ethyl Ether	ND	1	5.0	µg/L
Toluene	1.0	1	0.50	µg/L
Xylenes, Total	ND	1	0.50	µg/L

Surrogate for Blank	% Recovery	Control Limits
4-Bromofluorobenzene	94.0	70 - 130
Dibromofluoromethane	112	70 - 130
Toluene-d8	109	70 - 130

Method Blank - Liquid - GC-MS - TPH as Gasoline - GC-MS

QC Batch ID: WM1051014

Validated by: MaiChiTu - 10/17/05

QC Batch Analysis Date: 10/14/2005

Parameter	Result	DF	PQLR	Units
TPH as Gasoline	ND	1	50	µg/L

Surrogate for Blank	% Recovery	Control Limits
4-Bromofluorobenzene	106	70 - 130
Dibromofluoromethane	103	70 - 130
Toluene-d8	103	70 - 130

Entech Analytical Labs, Inc.

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Laboratory Control Sample / Duplicate - Liquid - EPA 8260B - 8260Petroleum

QC Batch ID: WM1051014

Reviewed by: MaiChiTu - 10/17/05

QC Batch ID Analysis Date: 10/14/2005

LCS

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	Recovery Limits
Benzene	<0.50	20	20.9	µg/L	104	70 - 130
Methyl-t-butyl Ether	<1.0	20	18.2	µg/L	91.0	70 - 130
Toluene	1.0	20	22.0	µg/L	110	70 - 130
Surrogate	% Recovery	Control Limits				
4-Bromofluorobenzene	89.8	70	- 130			
Dibromofluoromethane	104	70	- 130			
Toluene-d8	97.7	70	- 130			

LCSD

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	RPD	RPD Limits	Recovery Limits
Benzene	<0.50	20	20.5	µg/L	102	1.9	25.0	70 - 130
Methyl-t-butyl Ether	<1.0	20	18.1	µg/L	90.5	0.55	25.0	70 - 130
Toluene	1.0	20	21.9	µg/L	110	0.46	25.0	70 - 130
Surrogate	% Recovery	Control Limits						
4-Bromofluorobenzene	89.2	70	- 130					
Dibromofluoromethane	102	70	- 130					
Toluene-d8	97.1	70	- 130					

Laboratory Control Sample / Duplicate - Liquid - GC-MS - TPH as Gasoline - GC-MS

QC Batch ID: WM1051014

Reviewed by: MaiChiTu - 10/17/05

QC Batch ID Analysis Date: 10/14/2005

LCS

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	Recovery Limits
TPH as Gasoline	<25	120	120	µg/L	95.8	65 - 135
Surrogate	% Recovery	Control Limits				
4-Bromofluorobenzene	99.8	70	- 130			
Dibromofluoromethane	94.1	70	- 130			
Toluene-d8	97.7	70	- 130			

LCSD

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	RPD	RPD Limits	Recovery Limits
TPH as Gasoline	<25	120	116	µg/L	92.9	3.1	25.0	65 - 135
Surrogate	% Recovery	Control Limits						
4-Bromofluorobenzene	102	70	- 130					
Dibromofluoromethane	93	70	- 130					
Toluene-d8	97	70	- 130					

Entech Analytical Labs, Inc.

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Matrix Spike / Matrix Spike Duplicate - Liquid - EPA 8260B - 8260Petroleum

QC Batch ID: WM1051014

Reviewed by: MaiChiTu - 10/17/05

QC Batch ID Analysis Date: 10/14/2005

MS Sample Spiked: 45694-003

Parameter	Sample Result	Spike Amount	Spike Result	Units	Analysis Date	% Recovery	Recovery Limits
Benzene	ND	20	20.4	µg/L	10/14/2005	102	70 - 130
Methyl-t-butyl Ether	60.5	20	68.2	µg/L	10/14/2005	38.5	70 - 130
Toluene	ND	20	21.2	µg/L	10/14/2005	106	70 - 130

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	87.3	70 - 130
Dibromofluoromethane	104	70 - 130
Toluene-d8	98.7	70 - 130

MSD Sample Spiked: 45694-003

Parameter	Sample Result	Spike Amount	Spike Result	Units	Analysis Date	% Recovery	RPD	RPD Limits	Recovery Limits
Benzene	ND	20	20.1	µg/L	10/14/2005	100	1.5	25.0	70 - 130
Methyl-t-butyl Ether	60.5	20	68.5	µg/L	10/14/2005	40.0	3.8	25.0	70 - 130
Toluene	ND	20	21.1	µg/L	10/14/2005	106	0.47	25.0	70 - 130

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	88	70 - 130
Dibromofluoromethane	105	70 - 130
Toluene-d8	98.8	70 - 130

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Santa Clara, CA 95054 (408) 588-0201 - Fax

Chain of Custody / Analysis Request

Attention to: JIM GREEN		Phone No.: 707-751-0655		Purchase Order No.:		Invoice to: (if Different):		Phone:	
Company Name: ECM GROUP		Fax No.: 707-751-0653		Project No.: 98-439-60		Company: ECM GROUP		Quote No.:	
Mailing Address: P.O. Box 802		Email Address:		Project Name: GANTNER		Billing Address: (if Different):			
City: BENICIA		State: CA		Zip Code: 94510		Project Location:		City:	
								State:	
								Zip:	

[illegible]

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054

Phone: (408) 588-0200

Fax: (408) 588-0201

Jim Green
ECM Group
290 W. Channel Rd.
Benicia, CA 94510

Lab Certificate Number: 47355

Issued: 01/24/2006

Project Number: 98-439-60

Global ID: T0609700730

Project Name: Gantner

Certificate of Analysis - Final Report

On January 13, 2006, samples were received under chain of custody for analysis.

Entech analyzes samples "as received" unless otherwise noted. The following results are included:

<u>Matrix</u>	<u>Test</u>	<u>Comments</u>
Liquid	Electronic Deliverables EPA 8260B - GC/MS TPH as Gasoline by GC/MS	

Entech Analytical Labs, Inc. is certified for environmental analyses by the State of California (#2346).

If you have any questions regarding this report, please call us at 408-588-0200 ext. 225.

Sincerely,



Laurie Glantz-Murphy
Laboratory Director

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054

Phone: (408) 588-0200

Fax: (408) 588-0201

ECM Group
290 W. Channel Rd.
Benicia, CA 94510
Attn: Jim Green

Samples Received: 01/13/2006

Project Number: 98-439-60

Project Name: Gantner

GlobalID: T0609700730

Certificate of Analysis - Data Report

Sample Collected by: Client

Lab #: 47355-001 Sample ID: Mid-A

Matrix: Liquid Sample Date: 1/11/2006 1:07 PM

EPA 8260B for Groundwater and Water EPA 624 for Wastewater					8260 Petroleum				
Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Benzene	ND		1.0	0.50	µg/L	N/A	N/A	1/18/2006	WM2060118
Toluene	ND		1.0	0.50	µg/L	N/A	N/A	1/18/2006	WM2060118
Ethyl Benzene	ND		1.0	0.50	µg/L	N/A	N/A	1/18/2006	WM2060118
Xylenes, Total	ND		1.0	0.50	µg/L	N/A	N/A	1/18/2006	WM2060118
Methyl-t-butyl Ether	1.2		1.0	1.0	µg/L	N/A	N/A	1/18/2006	WM2060118
tert-Butyl Ethyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	1/18/2006	WM2060118
tert-Butanol (TBA)	16		1.0	10	µg/L	N/A	N/A	1/18/2006	WM2060118
Diisopropyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	1/18/2006	WM2060118
tert-Amyl Methyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	1/18/2006	WM2060118
Surrogate	Surrogate Recovery		Control Limits (%)					Analyzed by: TAF	
4-Bromofluorobenzene	102		60 - 130					Reviewed by: MaiChiTu	
Dibromofluoromethane	92.1		60 - 130						
Toluene-d8	102		60 - 130						

GC-MS					TPH as Gasoline - GC-MS				
Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Gasoline	ND		1.0	50	µg/L	N/A	N/A	1/18/2006	WM2060118
Surrogate	Surrogate Recovery		Control Limits (%)					Analyzed by: TAF	
4-Bromofluorobenzene	93.5		60 - 130					Reviewed by: MaiChiTu	
Dibromofluoromethane	94.0		60 - 130						
Toluene-d8	95.2		60 - 130						

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ECM Group
290 W. Channel Rd.
Benicia, CA 94510
Attn: Jim Green

Samples Received: 01/13/2006

Project Number: 98-439-60

Project Name: Gantner

GlobalID: T0609700730

Certificate of Analysis - Data Report

Sample Collected by: Client

Lab #: 47355-002 Sample ID: Mid-B

Matrix: Liquid Sample Date: 1/11/2006 1:10 PM

EPA 8260B for Groundwater and Water EPA 624 for Wastewater								8260 Petroleum	
Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Benzene	ND		1.0	0.50	µg/L	N/A	N/A	1/18/2006	WM2060118
Toluene	ND		1.0	0.50	µg/L	N/A	N/A	1/18/2006	WM2060118
Ethyl Benzene	ND		1.0	0.50	µg/L	N/A	N/A	1/18/2006	WM2060118
Xylenes, Total	ND		1.0	0.50	µg/L	N/A	N/A	1/18/2006	WM2060118
Methyl-t-butyl Ether	ND		1.0	1.0	µg/L	N/A	N/A	1/18/2006	WM2060118
tert-Butyl Ethyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	1/18/2006	WM2060118
tert-Butanol (TBA)	12		1.0	10	µg/L	N/A	N/A	1/18/2006	WM2060118
Diisopropyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	1/18/2006	WM2060118
tert-Amyl Methyl Ether	ND		1.0	5.0	µg/L	N/A	N/A	1/18/2006	WM2060118
Surrogate	Surrogate Recovery		Control Limits (%)					Analyzed by: TAF	
4-Bromofluorobenzene	103		60 - 130					Reviewed by: MaiChiTu	
Dibromofluoromethane	92.5		60 - 130						
Toluene-d8	102		60 - 130						

GC-MS								TPH as Gasoline - GC-MS	
Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Gasoline	ND		1.0	50	µg/L	N/A	N/A	1/18/2006	WM2060118
Surrogate	Surrogate Recovery		Control Limits (%)					Analyzed by: TAF	
4-Bromofluorobenzene	94.1		60 - 130					Reviewed by: MaiChiTu	
Dibromofluoromethane	94.4		60 - 130						
Toluene-d8	95.2		60 - 130						

Detection Limit = Detection Limit for Reporting.

D/P-F = Dilution and/or Prep Factor includes sample volume adjustments.

ND = Not Detected at or above the Detection Limit.

Qual = Data Qualifier

1/24/2006 9:20:45 PM - dhu

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054

Phone: (408) 588-0200

Fax: (408) 588-0201

ECM Group
290 W. Channel Rd.
Benicia, CA 94510
Attn: Jim Green

Samples Received: 01/13/2006

Project Number: 98-439-60

Project Name: Gantner

GlobalID: T0609700730

Sample Collected by: Client

Certificate of Analysis - Data Report

Lab #: 47355-003 Sample ID: INF

Matrix: Liquid Sample Date: 1/11/2006 1:15 PM

EPA 8260B for Groundwater and Water EPA 624 for Wastewater					8260 Petroleum				
Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
Benzene	49		5.0	2.5	µg/L	N/A	N/A	1/19/2006	WM2060119
Toluene	13		5.0	2.5	µg/L	N/A	N/A	1/19/2006	WM2060119
Ethyl Benzene	190		5.0	2.5	µg/L	N/A	N/A	1/19/2006	WM2060119
Xylenes, Total	80		5.0	2.5	µg/L	N/A	N/A	1/19/2006	WM2060119
Methyl-t-butyl Ether	ND		5.0	5.0	µg/L	N/A	N/A	1/19/2006	WM2060119
tert-Butyl Ethyl Ether	ND		5.0	25	µg/L	N/A	N/A	1/19/2006	WM2060119
tert-Butanol (TBA)	ND		5.0	50	µg/L	N/A	N/A	1/19/2006	WM2060119
Diisopropyl Ether	ND		5.0	25	µg/L	N/A	N/A	1/19/2006	WM2060119
tert-Amyl Methyl Ether	ND		5.0	25	µg/L	N/A	N/A	1/19/2006	WM2060119

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	99.2	60 - 130
Dibromofluoromethane	93.0	60 - 130
Toluene-d8	102	60 - 130

Analyzed by: TAF
Reviewed by: MaiChiTu

GC-MS					TPH as Gasoline - GC-MS				
Parameter	Result	Qual	D/P-F	Detection Limit	Units	Prep Date	Prep Batch	Analysis Date	QC Batch
TPH as Gasoline	2500		5.0	250	µg/L	N/A	N/A	1/19/2006	WM2060119

Surrogate	Surrogate Recovery	Control Limits (%)
4-Bromofluorobenzene	91.0	60 - 130
Dibromofluoromethane	94.8	60 - 130
Toluene-d8	95.2	60 - 130

Analyzed by: TAF
Reviewed by: MaiChiTu

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

Method Blank - Liquid - EPA 8260B - 8260Petroleum

QC Batch ID: WM2060118

Validated by: MaiChiTu - 01/20/06

QC Batch Analysis Date: 1/18/2006

Parameter	Result	DF	PQLR	Units
Benzene	ND	1	0.50	µg/L
Diisopropyl Ether	ND	1	5.0	µg/L
Ethyl Benzene	ND	1	0.50	µg/L
Methyl-t-butyl Ether	ND	1	1.0	µg/L
tert-Amyl Methyl Ether	ND	1	5.0	µg/L
tert-Butanol (TBA)	ND	1	10	µg/L
tert-Butyl Ethyl Ether	ND	1	5.0	µg/L
Toluene	ND	1	0.50	µg/L
Xylenes, Total	ND	1	0.50	µg/L

Surrogate for Blank	% Recovery	Control Limits
4-Bromofluorobenzene	102	60 - 130
Dibromofluoromethane	92.3	60 - 130
Toluene-d8	100	60 - 130

Method Blank - Liquid - GC-MS - TPH as Gasoline - GC-MS

QC Batch ID: WM2060118

Validated by: MaiChiTu - 01/20/06

QC Batch Analysis Date: 1/18/2006

Parameter	Result	DF	PQLR	Units
TPH as Gasoline	ND	1	50	µg/L

Surrogate for Blank	% Recovery	Control Limits
4-Bromofluorobenzene	93.7	60 - 130
Dibromofluoromethane	94.2	60 - 130
Toluene-d8	94.0	60 - 130

Entech Analytical Labs, Inc.

3334 Victor Court, Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

Laboratory Control Sample / Duplicate - Liquid - EPA 8260B - 8260Petroleum

QC Batch ID: WM2060118

Reviewed by: MaiChiTu - 01/20/06

QC Batch ID Analysis Date: 1/18/2006

LCS

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	Recovery Limits
1,1-Dichloroethene	<0.50	20	16.1	µg/L	80.5	70 - 130
Benzene	<0.50	20	18.1	µg/L	90.6	70 - 130
Chlorobenzene	<0.50	20	19.7	µg/L	98.4	70 - 130
Methyl-t-butyl Ether	<1.0	20	17.0	µg/L	85.0	70 - 130
Toluene	<0.50	20	17.7	µg/L	88.6	70 - 130
Trichloroethene	<0.50	20	20.6	µg/L	103	70 - 130

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	104.0	60 - 130
Dibromofluoromethane	93.3	60 - 130
Toluene-d8	97.2	60 - 130

LCSD

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	RPD	RPD Limits	Recovery Limits
1,1-Dichloroethene	<0.50	20	16.6	µg/L	82.9	2.9	25.0	70 - 130
Benzene	<0.50	20	18.5	µg/L	92.5	2.1	25.0	70 - 130
Chlorobenzene	<0.50	20	20.1	µg/L	100	1.9	25.0	70 - 130
Methyl-t-butyl Ether	<1.0	20	18.2	µg/L	90.9	6.7	25.0	70 - 130
Toluene	<0.50	20	17.9	µg/L	89.7	1.3	25.0	70 - 130
Trichloroethene	<0.50	20	21.8	µg/L	109	5.8	25.0	70 - 130

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	105.0	60 - 130
Dibromofluoromethane	93.1	60 - 130
Toluene-d8	97.7	60 - 130

Laboratory Control Sample / Duplicate - Liquid - GC-MS - TPH as Gasoline - GC-MS

QC Batch ID: WM2060118

Reviewed by: MaiChiTu - 01/20/06

QC Batch ID Analysis Date: 1/18/2006

LCS

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	Recovery Limits
TPH as Gasoline	<25	250	269	µg/L	108	65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	95.4	60 - 130
Dibromofluoromethane	95.5	60 - 130
Toluene-d8	93.7	60 - 130

LCSD

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	RPD	RPD Limits	Recovery Limits
TPH as Gasoline	<25	250	265	µg/L	106	1.4	25.0	65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	95.8	60 - 130
Dibromofluoromethane	94.7	60 - 130
Toluene-d8	94.4	60 - 130

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

Matrix Spike / Matrix Spike Duplicate - Liquid - EPA 8260B - 8260Petroleum

QC Batch ID: WM2060118

Reviewed by: MaiChiTu - 01/20/06

QC Batch ID Analysis Date: 1/18/2006

MS Sample Spiked: 47377-005

Parameter	Sample Result	Spike Amount	Spike Result	Units	Analysis Date	% Recovery	Recovery Limits
Benzene	0.261	20	20.3	µg/L	1/18/2006	100	70 - 130
Methyl-t-butyl Ether	ND	20	22.4	µg/L	1/18/2006	112	70 - 130
Toluene	ND	20	19.4	µg/L	1/18/2006	97.0	70 - 130
Surrogate	% Recovery	Control Limits					
4-Bromofluorobenzene	113.0	60 - 130					
Dibromofluoromethane	110.0	60 - 130					
Toluene-d8	101.0	60 - 130					

MSD Sample Spiked: 47377-005

Parameter	Sample Result	Spike Amount	Spike Result	Units	Analysis Date	% Recovery	RPD	RPD Limits	Recovery Limits
Benzene	0.261	20	19.8	µg/L	1/18/2006	97.7	2.6	25.0	70 - 130
Methyl-t-butyl Ether	ND	20	21.5	µg/L	1/18/2006	108	3.9	25.0	70 - 130
Toluene	ND	20	19.3	µg/L	1/18/2006	96.6	0.41	25.0	70 - 130
Surrogate	% Recovery	Control Limits							
4-Bromofluorobenzene	111.0	60 - 130							
Dibromofluoromethane	111.0	60 - 130							
Toluene-d8	103.0	60 - 130							

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

Method Blank - Liquid - EPA 8260B - 8260Petroleum

QC Batch ID: WM2060119

Validated by: MaiChiTu - 01/20/06

QC Batch Analysis Date: 1/19/2006

Parameter	Result	DF	PQLR	Units
Benzene	ND	1	0.50	µg/L
Diisopropyl Ether	ND	1	5.0	µg/L
Ethyl Benzene	ND	1	0.50	µg/L
Methyl-t-butyl Ether	ND	1	1.0	µg/L
tert-Amyl Methyl Ether	ND	1	5.0	µg/L
tert-Butanol (TBA)	ND	1	10	µg/L
tert-Butyl Ethyl Ether	ND	1	5.0	µg/L
Toluene	ND	1	0.50	µg/L
Xylenes, Total	ND	1	0.50	µg/L

Surrogate for Blank	% Recovery	Control Limits
4-Bromofluorobenzene	98.3	60 - 130
Dibromofluoromethane	87.0	60 - 130
Toluene-d8	101	60 - 130

Method Blank - Liquid - GC-MS - TPH as Gasoline - GC-MS

QC Batch ID: WM2060119

Validated by: MaiChiTu - 01/20/06

QC Batch Analysis Date: 1/19/2006

Parameter	Result	DF	PQLR	Units
TPH as Gasoline	ND	1	50	µg/L

Surrogate for Blank	% Recovery	Control Limits
4-Bromofluorobenzene	90.1	60 - 130
Dibromofluoromethane	88.7	60 - 130
Toluene-d8	94.4	60 - 130

Entech Analytical Labs, Inc.

3334 Victor Court, Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

Laboratory Control Sample / Duplicate - Liquid - EPA 8260B - 8260Petroleum

QC Batch ID: WM2060119

Reviewed by: MaiChiTu - 01/20/06

QC Batch ID Analysis Date: 1/19/2006

LCS

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	Recovery Limits
1,1-Dichloroethene	<0.50	20	16.9	µg/L	84.5	70 - 130
Benzene	<0.50	20	19.2	µg/L	96.0	70 - 130
Chlorobenzene	<0.50	20	21.5	µg/L	108	70 - 130
Methyl-t-butyl Ether	<1.0	20	17.8	µg/L	89.1	70 - 130
Toluene	<0.50	20	19.2	µg/L	95.9	70 - 130
Trichloroethene	<0.50	20	22.1	µg/L	111	70 - 130

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	101.0	60 - 130
Dibromofluoromethane	88.7	60 - 130
Toluene-d8	96.6	60 - 130

LCSD

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	RPD	RPD Limits	Recovery Limits
1,1-Dichloroethene	<0.50	20	17.5	µg/L	87.5	3.5	25.0	70 - 130
Benzene	<0.50	20	19.8	µg/L	99.1	3.3	25.0	70 - 130
Chlorobenzene	<0.50	20	22.1	µg/L	111	2.9	25.0	70 - 130
Methyl-t-butyl Ether	<1.0	20	18.4	µg/L	91.8	2.9	25.0	70 - 130
Toluene	<0.50	20	19.7	µg/L	98.4	2.6	25.0	70 - 130
Trichloroethene	<0.50	20	22.8	µg/L	114	3.0	25.0	70 - 130

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	103.0	60 - 130
Dibromofluoromethane	87.5	60 - 130
Toluene-d8	96.4	60 - 130

Laboratory Control Sample / Duplicate - Liquid - GC-MS - TPH as Gasoline - GC-MS

QC Batch ID: WM2060119

Reviewed by: MaiChiTu - 01/20/06

QC Batch ID Analysis Date: 1/19/2006

LCS

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	Recovery Limits
TPH as Gasoline	<25	250	251	µg/L	100	65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	90.5	60 - 130
Dibromofluoromethane	88.4	60 - 130
Toluene-d8	93.9	60 - 130

LCSD

Parameter	Method Blank	Spike Amt	SpikeResult	Units	% Recovery	RPD	RPD Limits	Recovery Limits
TPH as Gasoline	<25	250	263	µg/L	105	4.8	25.0	65 - 135

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	91.3	60 - 130
Dibromofluoromethane	85.4	60 - 130
Toluene-d8	94.3	60 - 130

Entech Analytical Labs, Inc.

3334 Victor Court , Santa Clara, CA 95054 Phone: (408) 588-0200 Fax: (408) 588-0201

Matrix Spike / Matrix Spike Duplicate - Liquid - EPA 8260B - 8260Petroleum

QC Batch ID: WM2060119

Reviewed by: MaiChiTu - 01/20/06

QC Batch ID Analysis Date: 1/19/2006

MS Sample Spiked: 47421-005

Parameter	Sample Result	Spike Amount	Spike Result	Units	Analysis Date	% Recovery	Recovery Limits
Benzene	ND	20	21.2	µg/L	1/19/2006	106	70 - 130
Methyl-t-butyl Ether	ND	20	20.3	µg/L	1/19/2006	102	70 - 130
Toluene	ND	20	20.6	µg/L	1/19/2006	103	70 - 130

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	105.0	60 - 130
Dibromofluoromethane	96.8	60 - 130
Toluene-d8	101.0	60 - 130

MSD Sample Spiked: 47421-005

Parameter	Sample Result	Spike Amount	Spike Result	Units	Analysis Date	% Recovery	RPD	RPD Limits	Recovery Limits
Benzene	ND	20	21.6	µg/L	1/19/2006	108	1.6	25.0	70 - 130
Methyl-t-butyl Ether	ND	20	19.7	µg/L	1/19/2006	98.4	3.2	25.0	70 - 130
Toluene	ND	20	20.9	µg/L	1/19/2006	105	1.7	25.0	70 - 130

Surrogate	% Recovery	Control Limits
4-Bromofluorobenzene	104.0	60 - 130
Dibromofluoromethane	93.5	60 - 130
Toluene-d8	99.3	60 - 130